

GUJARAT TECHNOLOGICAL UNIVERSITY**B. Pharm. Semester - IST Examination –July- 2011****Subject code: 210005****Subject Name: Pharmaceutics-I****Date:13/07/2011****Time: 10:30 am – 01:30 pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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| Q.1 | (a) Discuss the various mechanisms of filtration process. | 06 |
| | (b) Explain Plate and Frame filter press with labeled diagram. | 05 |
| | (c) Discuss the factors affecting the process of filtration. | 05 |
| Q.2 | (a) Explain the theory of centrifugation. | 06 |
| | (b) Write the construction and working of a continuous horizontal centrifuge. | 05 |
| | (c) Write any two pharmaceutical applications of centrifugal sedimentation and basket centrifuges. | 05 |
| Q.3 | (a) Describe with labeled diagram falling film evaporator. | 06 |
| | (b) Describe the factors affecting evaporation. | 05 |
| | (c) Discuss Duhring's rule and Raoult's law. | 05 |
| Q.4 | (a) Explain the process of steam distillation and give its importance in pharmacy. | 06 |
| | (b) Write a note on packed columns. | 05 |
| | (c) What are constant boiling mixtures? Draw typical boiling diagrams for constant boiling mixtures. | 05 |
| Q.5 | (a) Describe the drying rate curve. | 06 |
| | (b) Describe the construction and working of a fluidized bed dryer. | 05 |
| | (c) Give the pharmaceutical applications of drying. | 05 |
| Q.6 | (a) Give applications of humidity in pharmacy. | 06 |
| | (b) Describe compression refrigeration cycle with diagram. | 05 |
| | (c) Define the terms Humidity, Dew point, Humid volume, Humid heat and dry bulb temperature. | 05 |
| Q.7 | (a) Define evaporation, drying, filtration and centrifugation. | 06 |
| | (b) How is humidity measured? | 05 |
| | (c) A rotary filter turns at the rate of 2.0 rpm. The fraction of total filtering area immersed in the slurry 0.2. It has been observed that 1.5 cu.ft of filtrate is delivered per min per sq.ft of submerged area with a given slurry under these operating condition. If 6.0 cu.ft of the filtrate is delivered per revolution by this rotary filter, what is total area of filter cloth on the drum? | 05 |
